

CLAIMS

What is claimed is:

1. A method for preventing unauthorized dynamic host configuration servers from responding to client configuration requests in an Internet Protocol (IP) network, said method comprising the steps of:

simulating a plurality of network clients within a server checker client;

detecting at least one unauthorized dynamic host configuration server within said IP network; and

delivering configuration requests from said server checker client to said at least one unauthorized dynamic configuration server such that said at least one unauthorized dynamic host configuration server is unable to respond to configuration requests from actual network clients.

2. The method of claim 1, further comprising the step of reserving multiple IP addresses in each of said at least one unauthorized dynamic host configuration server.

3. The method of claim 2, wherein said step of reserving multiple IP addresses in each of said at least one unauthorized dynamic host configuration server further comprises the step of delivering a plurality of different IP address requests to each of said at least one unauthorized dynamic host configuration server.

1 4. The method of claim 3, further comprising the step
2 of flooding each of said at least one unauthorized
3 dynamic host configuration server with a plurality of IP
4 address renewal requests.

1 5. The method of claim 4, wherein the step of flooding
2 each of said at least one unauthorized dynamic host
3 configuration server with a plurality of IP address
4 renewal requests comprises the steps of:

5 simulating a plurality of clients requesting renewal
6 of their IP address; and

7 delivering a plurality of different IP address
8 renewal requests from said simulated plurality of clients
9 to each of said at least one unauthorized dynamic host
10 configuration server.

1 6. The method of claim 5, wherein each IP address
2 request includes:

3 an unknown client medium access control (MAC)
4 address; and

5 an IP address of said server checker client.

1 7. The method of claim 4, wherein each IP address
2 renewal request includes an unknown client IP address.

1 8. The method of claim 1, wherein said step of
2 detecting an unauthorized dynamic host configuration
3 server further comprises the steps of:

4 delivering an IP address request from said simulated
5 network clients by:

6 broadcasting a request for an IP address to dynamic
7 host configuration servers over said IP network;

8 receiving one or more responses from one or more of
9 said dynamic host configuration servers;

10 identifying a specific dynamic host configuration
11 server that originated each of said responses; and

12 determining for each identified dynamic host
13 configuration server whether or not said identified
14 dynamic host configuration server is authorized referring
15 to a table, wherein said table includes a list of
16 authorized dynamic host configuration servers.

1 9. The method of claim 8, wherein said step of
2 identifying a specific dynamic host configuration server
3 that originated a response further comprises the step of
4 retrieving from each response an IP address of the
5 dynamic host configuration server that originated the
6 response.

1 10. The method of claim 8, wherein said table includes
2 an IP address for each authorized dynamic host
3 configuration server.

1 11. The method of claim 8, wherein each response
2 comprises a proposed IP address, and wherein said step of
3 determining for each identified dynamic host

4 configuration server whether or not said identified
5 dynamic host configuration server is authorized referring
6 to a table, further comprises the step of releasing a
7 proposed IP address to each identified dynamic host
8 configuration server.

1 12. The method of claim 11, wherein said releasing step
2 further comprises the step of broadcasting a release
3 message containing an IP address of an unknown dynamic
4 host configuration server to each of said identified
5 dynamic host configuration servers.

13. The method of claim 1, wherein said detecting step
is executed at predefined time intervals.

005207 875996

1 14. A system for preventing unauthorized dynamic host
2 configuration servers from responding to client
3 configuration requests in an Internet Protocol (IP)
4 network, said system comprising:

5 processing means for simulating a plurality of
6 network clients within a server checker client;

7 processing means for detecting at least one
8 unauthorized dynamic host configuration server within
9 said IP network; and

0 processing means for delivering configuration
1 requests from said server checker client to said at least
2 one unauthorized dynamic configuration server such that
3 said at least one unauthorized dynamic host configuration
4 server is unable to respond to configuration requests
5 from actual network clients.

6 15. The system of claim 14, further comprising
7 processing means for reserving multiple IP addresses in
8 each of said at least one unauthorized dynamic host
9 configuration server.

1 16. The system of claim 15, wherein said processing
2 means for reserving multiple IP addresses in each of said
3 at least one unauthorized dynamic host configuration
4 server further comprises processing means for delivering
5 a plurality of different IP address requests to each of
6 said at least one unauthorized dynamic host configuration
7 server.

1 17. The system of claim 16, further comprising
2 processing means for flooding each of said at least one
3 unauthorized dynamic host configuration server with a
4 plurality of IP address renewal requests.

1 18. The system of claim 17, wherein said processing
2 means for flooding each of said at least one unauthorized
3 dynamic host configuration server with a plurality of IP
4 address renewal requests comprises:

5 processing means for simulating a plurality of
6 clients requesting renewal of their IP address; and

7 processing means for delivering a plurality of
8 different IP address renewal requests from said simulated
9 plurality of clients to each of said at least one
10 unauthorized dynamic host configuration server.

1 19. The system of claim 18, wherein each IP address
2 request includes:

3 an unknown client medium access control (MAC)
4 address; and

5 an IP address of said server checker client.

1 20. The system of claim 17, wherein each IP address
2 renewal request includes an unknown client IP address.

1 21. The system of claim 14, wherein said processing
2 means for detecting an unauthorized dynamic host
3 configuration server further comprises:

4 processing means for delivering an IP address
5 request from said simulated network clients by:

6 processing means for broadcasting a request for an
7 IP address to dynamic host configuration servers over
8 said IP network;

9 processing means for receiving one or more responses
10 from one or more of said dynamic host configuration
11 servers;

12 processing means for identifying a specific dynamic
13 host configuration server that originated each of said
14 responses; and

15 processing means for determining for each identified
16 dynamic host configuration server whether or not said
17 identified dynamic host configuration server is
18 authorized referring to a table, wherein said table
19 includes a list of authorized dynamic host configuration
20 servers.

1 22. The system of claim 21, wherein said processing
2 means for identifying a specific dynamic host
3 configuration server that originated a response further
4 comprises processing means for retrieving from each
5 response an IP address of the dynamic host configuration
6 server that originated the response.

1 23. The system of claim 21, wherein said table includes
2 an IP address for each authorized dynamic host
3 configuration server.

1 24. The system of claim 21, wherein each response
2 comprises a proposed IP address, and wherein said
3 processing means for determining for each identified
4 dynamic host configuration server whether or not said
5 identified dynamic host configuration server is
6 authorized referring to a table, further comprises
7 processing means for releasing a proposed IP address to
8 each identified dynamic host configuration server.

1 25. The system of claim 24, wherein said processing
2 means for releasing a proposed IP address to each
3 identified dynamic host configuration server further
4 comprises processing means for broadcasting a release
5 message containing an IP address of an unknown dynamic
6 host configuration server to each of said identified
7 dynamic host configuration servers.

1 26. The system of claim 14, wherein said processing
2 means for detecting at least one unauthorized dynamic
3 host configuration server is activated at predefined time
4 intervals.

1 27. A program product for preventing unauthorized
2 dynamic host configuration servers from responding to
3 client configuration requests in an Internet Protocol
4 (IP) network, said program product comprising:

5 instruction means for simulating a plurality of
6 network clients within a server checker client;

7 instruction means for detecting at least one
8 unauthorized dynamic host configuration server within
9 said IP network; and

10 instruction means for delivering configuration
11 requests from said server checker client to said at least
12 one unauthorized dynamic configuration server such that
13 said at least one unauthorized dynamic host configuration
14 server is unable to respond to configuration requests
15 from actual network clients.

16 28. The program product of claim 27, further comprising
17 instruction means for reserving multiple IP addresses in
18 each of said at least one unauthorized dynamic host
19 configuration server.

20 29. The program product of claim 28, wherein said
21 instruction means for reserving multiple IP addresses in
22 each of said at least one unauthorized dynamic host
23 configuration server further comprises instruction means
24 for delivering a plurality of different IP address
25 requests to each of said at least one unauthorized
26 dynamic host configuration server.
27

1 30. The program product of claim 29, further comprising
2 instruction means for flooding each of said at least one
3 unauthorized dynamic host configuration server with a
4 plurality of IP address renewal requests.

1 31. The program product of claim 30, wherein said
2 instruction means for flooding each of said at least one
3 unauthorized dynamic host configuration server with a
4 plurality of IP address renewal requests comprises:

5 instruction means for simulating a plurality of
6 clients requesting renewal of their IP address; and

7 instruction means for delivering a plurality of
8 different IP address renewal requests from said simulated
9 plurality of clients to each of said at least one
10 unauthorized dynamic host configuration server.

1 32. The program product of claim 31, wherein each IP
2 address request includes:

3 an unknown client medium access control (MAC)
4 address; and

5 an IP address of said server checker client.

1 33. The program product of claim 30, wherein each IP
2 address renewal request includes an unknown client IP
3 address.

1 34. The program product of claim 27, wherein said
2 instruction means for detecting an unauthorized dynamic

005501-105500

host configuration server further comprises:

instruction means for delivering an IP address request from said simulated network clients by:

instruction means for broadcasting a request for an IP address to dynamic host configuration servers over said IP network;

instruction means for receiving one or more responses from one or more of said dynamic host configuration servers;

instruction means for identifying a specific dynamic host configuration server that originated each of said responses; and

instruction means for determining for each identified dynamic host configuration server whether or not said identified dynamic host configuration server is authorized referring to a table, wherein said table includes a list of authorized dynamic host configuration servers.

35. The program product of claim 34, wherein said instruction means for identifying a specific dynamic host configuration server that originated a response further comprises instruction means for retrieving from each response an IP address of the dynamic host configuration server that originated the response.

1 36. The program product of claim 34, wherein said table
2 includes an IP address for each authorized dynamic host
3 configuration server.

1 37. The program product of claim 34, wherein each
2 response comprises a proposed IP address, and wherein
3 said instruction means for determining for each
4 identified dynamic host configuration server whether or
5 not said identified dynamic host configuration server is
6 authorized referring to a table, further comprises
7 instruction means for releasing a proposed IP address to
8 each identified dynamic host configuration server.

005500
1 38. The program product of claim 37, wherein said
2 instruction means for releasing a proposed IP address to
3 each identified dynamic host configuration server further
4 comprises instruction means for broadcasting a release
5 message containing an IP address of an unknown dynamic
6 host configuration server to each of said identified
7 dynamic host configuration servers.

1 39. The program product of claim 27, wherein said
2 instruction means for detecting at least one unauthorized
3 dynamic host configuration server is activated at
4 predefined time intervals.